2013 Pearl River Basin Aquatic Vegetation Control Plan

LDWF, Inland Fisheries

1. Waterbody type – Natural river system including the Pearl River, Bogue Chitto River, Middle Pearl, West Middle Pearl, West Pearl, The West Pearl River Navigation Canal (WPRNC), and Little Lake.
2. Age and condition of control structure (if applicable) – The WPRNC was completed in 1957. It was a navigation project that included channelization of the Pearl River and a parallel canal with 3 locks. This project was not designed for drawdown purposes. In 1990 a USACE study concluded that the project was no longer economically viable. Funding for the project was withdrawn and maintenance halted.
3. Type of control structure - There are two low head sills and 3 locks in the WPRNC. The Pools Bluff sill (PBS) is located at the upper end of the navigation canal near river mile (RM) 48.7. It is 350 feet wide and built out of reinforced concrete. It is designed to maintain a navigable depth in the Pearl River to Bogalusa. The Bogue Chitto sill (BCS) is located near river mile RM 44 between locks 2 and 3. It is 250 feet wide and built out of reinforced concrete. It is designed to maintain a navigable depth in the parallel canal between locks 2 and 3. In 2003 the project exceeded its 50 year project life and USACE began the deauthorization process. In 2005, USACE abandoned the project and ceased to operate or maintain any of the structures associated with the project. These structures include locks 1, 2, and 3, boat ramps at Pools Bluff and lock 1, and boat portages at the sills. Today, there is no method of boat portage available at the sills and the gates at locks 1, 2 and 3 are inoperable.
4. Waterbody Board or Lake Commission – Fish and wildlife resources are managed by the Louisiana Department of Wildlife and Fisheries (LDWF).

What significant stakeholders use the lake?
Home and camp owners, recreational and commercial fishermen, boaters, hunters, trappers, shipping and commerce

What are their needs and concerns?
Public access is the primary focus of invasive aquatic weed control in this area. Floating, emergent, and submerged plants are managed for this purpose.

Aquatic Vegetation Status:

Water hyacinth, common salvinia, and duckweed have been the primary nuisance weeds in the system.

Plant estimates as of 1/15/2013:

Water hyacinth	300 acres
Common salvinia	450 acres
Duckweed	25 acres
Alligator weed	50 acres

Limitations:

Water hyacinth and common salvinia grow throughout the cypress tupelo swamps of the Pearl River Floodplain. These shallow forested areas occur on public and private lands, and are nearly impossible to access with conventional spray equipment.

Past Control Measures:

Table 1. Area (acres) of aquatic nuisance vegetation sprayed by year (2008 – 2012) and species in the Pearl River Basin, LA.

Year	Vegetation	Acres (treated)
2008	Water primrose	4.24
	Salvinia, Common	218.29
	Sedge	12.30
	Spadderdock	10.17
	Torpedo Grass	25.63
	Water Hyacinth	129.95
	Total - 400.58	
2009	Alligator weed	32.12
	Salvinia, Common	298.10
	Water Hyacinth	219.56
	Total - 563.43	
2010	Alligator weed	47.71
	Duckweed	33.43
	Salvinia, Common	332.79
	Water Hyacinth	266.10
	Total - 680.03	
2011	Salvinia, Common	218.29
	Sedge	12.30
	Spadderdock	10.17
	Torpedo Grass	25.63
	Water Hyacinth	129.95
	Total - 396.34	
2012	Alligator weed	15
	Cut grass	7
	Duckweed	15
	Pennywort	8
	Primrose	15
	Salvinia, Common	233

	Torpedo grass	3
	Water hyacinth	97
	Total - 392	

Water hyacinth and common salvinia have been the primary focus of vegetation control efforts in this area. Water hyacinth was treated with 2,4-D applied at a rate 0.5 gal/acre. Common salvinia was treated with diquat and a nonionic surfactant at rates of 0.75 gal/acre and 0.25 gal/acre, respectively. Typically, one to two applications are made to infested areas of the Pearl River annually during the growing season. An experimental release of common salvinia weevils (*Cyrtobagous salviniae*) was made at a single location in 2008 (Figure 1). This site is considered to have the highest abundance of common salvinia in the Louisiana portion of the Pearl River Basin. Plant material was collected, inoculated with common salvinia weevils, and transplanted into the area. No estimates of weevil numbers were made. In 2011, giant salvinia was found in the WPRNC. Efforts were quickly taken to contain and eradicate the plant. Fortunately, the plants were only found in the immediate vicinity of the boat ramp. Initially, all plants found were physically removed. A boom was then placed across Lock #1 to prevent any plants from floating downstream into the West Pearl River. Finally, tank mixed applications of Aquamaster (glyphosate) at 0.75 gal/acre were made along both shorelines of the canal. Bimonthly monitoring trips were conducted for 6 months. No plants were found and monitoring efforts were curtailed to once per month.

Recommendations:

To maintain public access, foliar applications to floating vegetation in the Pearl River will be necessary. Unless conditions change, one to two treatments will be applied annually. Water hyacinth will be treated with 2,4-D at a rate 0.5gal/acre. Common salvinia will be treated with a mix of glyphosate (0.75 gal/acre) and diquat (0.25 gal/acre) with Aqua King Plus (0.25 gal/acre) and Thoroughbred (8 oz/acre) surfactants. LDWF personnel will continue to investigate public complaints concerning aquatic vegetation and conduct appropriate action in a timely manner.